

***FlyBy Math™* Alignment**
Mathematics Content Standards and
Performance Standards (Grade Level Expectations) [PSGLEs]
Fourth Edition – March 2006

Content Standard A: Mathematical Facts, Concepts, Principles, and Theories

Content Strand: Measurement

Measurement Techniques

PSGLE

The student demonstrates ability to use measurement techniques by

[6] MEA-4 calculating elapsed time (minutes, hours) (M2.2.5)

***FlyBy Math™* Activities**

--Calculate and measure the position and time of simulated aircraft. Represent that motion using tables, graphs, equations, and experimentation.

Content Strand: Estimation and Computation

Estimation:

PSGLE

The student determines reasonable answers to real-life situations, paper/pencil computations, or calculator results by

[6] E&C-1 identifying or using [a variety of **L**] strategies (e.g., truncating, rounding to compatible numbers) to estimate the results of addition, subtraction or multiplication from thousandths to millions or simple division (M3.2.1)

***FlyBy Math™* Activities**

--Predict outcomes and explain results of mathematical models and experiments.

Content Strand: Functions and Relationships

Describing Patterns and Functions:

PSGLE

The student demonstrates conceptual understanding of functions, patterns, or sequences by

[6] F&R-1 extending patterns (found in the number system, formed by multiples, factors, perfect squares up to 100, powers of ten), up to 10 terms, represented in tables, sequences, or in problem situations (M4.2.1)

[6] F&R-2 using rules to express the generalization of a pattern using words, lists, or tables, with or without variables (M4.2.4)

***FlyBy Math™* Activities**

--Represent distance, speed, and time relationships for constant speed cases using tables, bar graphs, line graphs, equations, and a Cartesian coordinate system.

--Use tables, bar graphs, line graphs, a Cartesian coordinate system, and equations to model aircraft conflicts and predict outcomes.

Content Strand: Statistics and Probability

Data Display

PSGLE

The student demonstrates an ability to classify and organize data by

[6] S&P-1 [designing an investigation and collecting L], organizing, or displaying, using appropriate scale for data displays (tables, bar graphs, line graphs, or circle graphs), data in real-world problems (e.g., social studies, friends, or school), with whole numbers up to 100 (M6.2.1 & M6.2.2)

FlyBy Math™ Activities

--Conduct simulation and measurement for several aircraft conflict problems.

--Represent distance, rate, and time data using tables, line plots, bar graphs, and line graphs.

Analysis and Central Tendency

PSGLE

The student demonstrates an ability to analyze data (comparing, explaining, interpreting, evaluating; drawing or justifying conclusions) by

[6] S&P-2 using information from a variety of displays (tables, bar graphs, line graphs, circle graphs, or Venn diagrams) (M6.2.2)

FlyBy Math™ Activities

--Use tables, bar graphs, line graphs, a Cartesian coordinate system, and equations to model aircraft conflicts and predict outcomes.

Content Standards B, C, D, and E: Process Skills and Abilities

Content Strand: Problem Solving

PSGLE

The student demonstrates an ability to problem solve by

[6] PS-1 selecting, modifying, and applying appropriate problem-solving strategies (e.g., graphing, Venn diagrams, tables, lists, working backwards, guess and check, or extending a pattern) and verifying results (M7.2.2, M7.3.2)

FlyBy Math™ Activities

--Conduct simulation and measurement for several aircraft conflict problems.

--Choose among tables, bar graphs, line graphs, a Cartesian coordinate system, and equations to model aircraft conflicts and predict outcomes.

[6] PS-2 evaluating and interpreting solutions to problems (M7.3.3)

--Explain and justify solutions regarding the motion of two airplanes using the results of plotting points on a schematic of a jet route, on a vertical line graph, and on a Cartesian coordinate system.

Content Strand: Communication

PSGLE

The student communicates his or her mathematical thinking by

[6] PS-3 representing problems using mathematical language including concrete, pictorial, and/or symbolic representation; or using appropriate vocabulary, symbols, and technology to explain mathematical solutions (M8.2.1, M8.2.2, & M8.2.3)

***FlyBy Math™* Activities**

--Predict outcomes and explain results of mathematical models and experiments.

--Represent distance, speed, and time relationships for constant speed cases using tables, bar graphs, line graphs, equations, and a Cartesian coordinate system.

Content Strand: Reasoning

PSGLE

The student demonstrates an ability to use logic and reason by

[6] PS-4 using informal deductive reasoning in concrete contexts; or justifying answers and mathematical strategies using examples (M9.3.1 & M9.3.3)

***FlyBy Math™* Activities**

--Explain and justify solutions regarding the motion of two airplanes using the results of plotting points on a schematic of a jet route, on a vertical line graph, and on a Cartesian coordinate system.

Content Strand: Connections

PSGLE

The student demonstrates the ability to apply mathematical skills and processes across the content strands by

[6] PS-5 using real-world contexts such as social studies, friends, school and community (M10.2.1, M10.2.2, & M10.3.2)

***FlyBy Math™* Activities**

--Apply mathematics to solving distance, rate, and time problems for aircraft conflict scenarios.